

**CEE-670**  
**Construction Equipment and Planning**

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**Course Description:**

Analysis of construction equipment costs and productivity emphasizing the types and usage of construction equipment and the role of preconstruction planning in improving construction productivity by proper selection of equipment fleet.

**Text**

Construction Planning, Equipment, and Methods. Sixth edition. By: Peurifoy and Schexnayder.

**Course Objectives**

The course objectives are to allow the students to learn about:

- The engineering fundamentals of moving earth
- The usage, production, and costing of construction equipment such as tractors and related equipment, trucks and wagons, scrapers, excavators, compactors and graders, cranes, asphalt and concrete placement equipment, air compressors, pumps, conveyor belts, and piling equipment.
- Construction methods and techniques related to heavy construction such as earthmoving, paving, concrete placement, land clearing, asphalt and concrete production, etc.
- The analysis of equipment costs and productivity, and the proper selection of equipment fleet.

**Individual Assignments**

There are some assignments to be completed individually. All students will be expected to make a reasonable effort to find answers on their own, ask questions in a professional manner when necessary, and to hand in assignments which have a professional appearance. Collaboration among the students is encouraged, as long as the integrity of the student's individual work and contribution is maintained (i.e., copying and plagiarism will be severely penalized). Professional presentation, good organization, and proper documentation are very important components of the assignment grade. Assignments must be turned in by 5 p.m. on the day they are due. Late work (max two days after the specified deadline) will be graded with 50% deduction from the total score otherwise no points will be received.

The breakdown of the final grade is:

• Individual Assignments& quizzes	30 %
• Mid Term Exam	35 %
• Final Exam	<u>35 %</u>
<b>Total:</b>	100 %

# COURSE SCHEDULE

## CEE 670 – Construction Equipment and Planning

<u>Date</u>	<u>Lecture Topic</u>	<u>Assigned Readings</u>
<b><u>WEEK 1</u></b>	Review Course Syllabus	
	Introduction	Chapter 1
<b><u>WEEK 2</u></b>	Equipment Costs	Chapter 3
	Equipment Costs	Chapter 3
<b><u>WEEK 3</u></b>	Engineering Fundamentals	Chapter 4
	Engineering Fundamentals	Chapter 4
<b><u>WEEK 4</u></b>	Tractors - Dozers	Chapter 5
	Tractors – Land Clearing	Chapter 5
	Tractors - Ripping	Chapter 5
<b><u>WEEK 5</u></b>	Scrapers	Chapter 6
<b><u>WEEK 6</u></b>	Scrapers	Chapter 6
	<b>MID-TERM EXAM</b>	—
<b><u>WEEK 7</u></b>	Excavators – Hoes	Chapter 8
	Excavators – Loaders	Chapter 8
<b><u>WEEK 8</u></b>	Compactors	Chapter 10
	Cranes	Chapter 7
<b><u>WEEK 9</u></b>	Conveyors	Chapter 11
	Compressed Air/Pumps	Chapters 12 and 16
<b><u>WEEK 10</u></b>	Pavers	Chapter 19
	Tunneling	Handouts
<b><u>WEEK 11</u></b>	<b>FINAL EXAM WEEK</b>	—